

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v4)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	-6
2x	$2x^2$	$-12x$
3	3x	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 47x + 30$.

*	x	6
7x	$7x^2$	$42x$
5	5x	30

ANSWER: $(7x + 5)(x + 6)$

Question 2

Use the box to factor $3x^2 - 14x - 49$.

*	x	-7
3x	$3x^2$	-21x
7	7x	-49

ANSWER: $(3x + 7)(x - 7)$

Question 3

Use the box to factor $5x^2 - 48x + 27$.

*	x	-9
5x	$5x^2$	-45x
-3	-3x	27

ANSWER: $(5x - 3)(x - 9)$